secondly, of two or more cells enclosed in the primary cell, and produced from its nucleus. The enclosed cells he denominates the secondary cells of the acinus, and in the cavities of these, between their nuclei and cell walls, the peculiar secretion of the gland is contained. The primary cell, with its included group of cells, each full of secretion, is appended to the extremity of one of the terminal ducts, and consequently does not communicate with that duct, a diaphragm formed by a portion of the primary cell wall stretching across the pedicle. When the secretion in the group of included cells is fully elaborated, the diaphragm dissolves or gives way, the cells burst, and the secretion flows along the ducts, the acinus disappearing, and making room for a neighbouring acinus, which has in the mean time been advancing in a similar manner. The whole parenchyma of glands of this order is thus, according to Mr. Goodsir, in a constant state of change—of development, maturity, and atrophy,—this series of changes being directly proportional to the profuseness of the secretion.

In the second order of glands, the follicular, as exemplified in the liver of *carcinus*, the germinal cell or spot is situated at the blind extremity of the follicle, and the secreting cells, as they advance along the follicle, become distended with their peculiar secretion.

Among other general conclusions deducible from these observations, it appeared that ducts are to be considered as inter-cellular passages into which the secretions formed by cells are cast.

Finally, the author inferred from the whole inquiry, 1st, That secretion is a function of, and takes place within the nucleated cell; and, 2d, Growth and secretion are identical,—the same process under different circumstances.—*Lon. and Edin. Monthly Journ. Med. Sci.*, May, 1842.

2. *Structure of the human kidney and the changes it undergoes in the granular degeneration.*—Mr. Goodsir submitted to the Medico-Chirurgical Society of Edinburgh April 6th, 1842, the result of his researches into the structure of the healthy human kidney, and into the changes which it undergoes in the granular degeneration described by Dr. Bright. Without denying the existence of occasional blind extremities of the tubuli uriniferi, the result probably of arrested development, the author stated that he had never seen the ducts terminating in this way. He then described a structure, which appears hitherto to have been overlooked by anatomists, namely, a fibro-cellular framework, which pervading every part of the gland, and particularly its cortical portion, performs the same important part in the kidney, which the capsule of Glisson does in the liver, forming a basis of support to the delicate structure of the gland, conducting the blood-vessels through the organ, and forming small chambers in the cortical portion, in each of which a single ultimate coil or loop of the uriniferous ducts is lodged. Mr. Goodsir believes, that the urine is formed at first within the so-called epithelium cells of the ducts, and that these burst, dissolve, and throw out their contents, and are succeeded by others which perform the same functions. The urine of man has not been detected by the author within the cells which line the ducts, but he has submitted to the Royal Society of Edinburgh, within the last few weeks, a memoir, in which he has proved that the urine, bile, milk, as well as the other more important secretions in the lower animals, are formed within the nucleated cells of the gland ducts. He believes, therefore, that the urine of man is poured at first into the cavities of the nucleated cells of the human kidney.

In proceeding to describe the morbid changes which he had detected in kidneys, in the various stages of the granular disease of Bright, the author of the paper did not pretend to decide, whether these changes originated in inflammation, or simply in congestion of the gland. He reminded the society of those changes, which at a former meeting he had announced as occurring in the vesicular glands of the intestine during fever, namely, the formation and progressive increase of nucleated cells, (probably aberrant forms of the epithelium which line the vesicles,) within the vesicles of the patches. He now stated, that granular degeneration of the kidney was a similar decrease; that it consisted essentially of the formation of nucleated cells within the uriniferous ducts; that these new cells were principally confined to the ultimate loops of the duct; but that in advanced stages of the disease, they might be formed even in the tubes of the pyramids of Ferrien,—that when a single ultimate loop of the uriniferous ducts was gorged or distended with the increasing mass of germinating cells, or when two or more neighbouring loops were in this condition, the little mass constituted one of the granulations characteristic of the milder forms of the disease,—that when throughout the gland, or in certain portions of it, the germinating masses had so far distended the ducts and loops, as to cause their disappearance, and to induce absorption of the walls of the little chambers of the fibro-cellular capsule, and consequently of the uriniferous ducts, the whole of the cortical portion of the gland, or that part of it more particularly affected, assumed the appearance presented in the more advanced stages of the disease. If the patient survives the stage last described, the kidney becomes partially or wholly atrophied,—a change due to the contraction of fibrous tissue, produced either from the cells which constitute the disease, or from cells resulting from effused fibrin. With the exception of the primary engorgement of the capillary system, and of the Malpighian corpuscles, and their subsequent diminution, Mr. Goodsir had not observed any very marked change in the vascular system of the kidney during granular degeneration of the organ.

In proceeding to describe certain parts of the healthy and morbid structure of the human liver, the author observed, that very little remained to be done in reference to this gland, since the very admirable researches of Mr. Kiernan. In regard to two parts of the structure, however, we were yet quite in the dark, namely, the mode of termination of the hepatic ducts, and the connection between them and the nucleated cells of this organ. He had been able, after considerable difficulty, to verify Mr. Kiernan's supposition, that the hepatic ducts terminate by a network within the lobules of the liver, around the intra-lobular veins. But the most important feature in the observations of the author, was the detection of the real connection between these ultimate ducts and the nucleated cells. These he found to be grouped in the form of acini on the sides of the duct. Each acinus might consist, first, of a single cell, denominated by the author the *primary* or *germinal cell* of the future acinus; or, secondly, of two or more cells enclosed in the primary cell, and produced from its nucleus. The enclosed cells he denominates the secondary cells of the acinus; and in the cavities of these, between their nuclei and cell walls, the bile and a few oil-like globules are contained, as he had already stated in the memoir above alluded to. The primary cell, with its included group of cells, each full of bile, is appended to the side of the remote ducts, and, consequently, does not communicate with that duct, a diaphragm formed by a portion of the primary cell wall stretching across the pedicle. When the bile in the group of included cells is fully elaborated, the diaphragm dissolves or gives way, the cells burst, and the bile flows along the ducts; the acinus disappearing, and making room for a neighbouring acinus, which has in the mean time been advancing in a similar manner. The whole parenchyma of the liver, then, is, according to Mr. Goodsir, "in a constant state of change,—of development, maturity, and atrophy; this series of changes being directly proportioned to the profuseness of the secretion of bile." The author now stated, that he found himself anticipated by Mr. Bowman, in regard to one of the morbid conditions of the human liver, namely, the fatty liver. He had, however, much pleasure in confirming that gentleman's observation (*Lancet*, Jan. 1842) as to the fat being deposited within the nucleated cells of the organ, and to be considered, in fact, as a redundancy of the oil globules naturally existing in these cells. It was then stated, that as in the kidney, so in the liver, contractile fibrous tissue might be developed, and produce partial or complete atrophy. Dr. Carswell had already indicated this as existing in cirrhosis. The matter of which the rounded masses in cirrhosis consist, was not considered by Mr. Goodsir as a new deposit, but merely as the natural tissue of the liver, altered by the pressure exerted by their fibrous envelopes. These alterations consist in constriction, more or less powerful, of the vessels and ducts which pass out and in to the rounded mass; the necessary difficulty with which the circulation is carried on, and the bile advanced along the ducts; and, latterly, in a change in the constitution of the nucleated cells themselves, which, instead of being distended with bile containing oil-like globules, contains matter of a darker colour and less oil. The cells may at last contain matter perfectly black, and then the rounded mass assumes the appearance of a melanotic tubercle, the black cells in some instances becoming pyriform and caudate. The author did not state the exact nature of the proximate cause of these various changes in the liver, although he is inclined to believe that the forms of cirrhosis and melanosis are due to the contractile tissue, as a product of inflammatory action more or less acute. The action of remedies, particularly of mercury, would appear to corroborate this opinion. Finally, he concluded, from the observations which he had made on the morbid anatomy of the human liver and kidney, that certain of the diseases of these organs are due to the development of new cells and new matter, within the ducts and nucleated cells of the organs, in accordance with the normal laws of cellular development, this cellular vegetation at last destroying, more or less completely, the natural tissue of the organ.—*Ibid.*

3. *Arrangement of the eighth pair of nerves.*—Mr. SPENCE exhibited to the Med. Chir. Soc. of Edinburgh (April 6, 1842), the preparation and drawings of a dissection of the eighth pair of nerves, showing that all the filaments of the par vagum did not pass the ganglia on that nerve; but that a portion of the vagus could be traced passing over its superior ganglion, and that this portion, after having been joined by the internal root of the spinal accessory, and giving off the pharyngeal branches of the vagus, likewise passed over its second ganglion, and could be traced into the recurrent laryngeal nerve. Mr. S. remarked, that this anatomical arrangement of the nerve satisfactorily accounted for the seemingly anomalous fact, that the vagus, an apparently ganglionic nerve, should send off motor branches, as these dissections showed that it contained motor filaments distinct from the ganglionic portion, and also distinct, for some distance, from the superior filaments of the accessory described by Bendz. He then made some remarks on the experiments of M. Bischoff, Dr. J. Reid, and M. Longet of Paris, to show that these experiments and the anatomy mutually illustrated each other.—*Ibid.*

4. *Singular case of Monstrosity.*—Dr. RODENSTAB, in a communication, entitled Practical Remarks on Labour, published in the "Neue Zeitschrift, fur die Geburtskunde," has given the particulars of the birth of a living monstrosity, without any cranium. The mother was delivered by the forceps. A fortnight after birth, points of ossification were developed in different parts of the head, and at the end of two months, the cranium resembled that of an ordinary newly-born infant. The child, a male, three years old at the date of the report, differs only from other children by the great size of the fontanelle.—*Prov. Med. and Surg. Journ.* May 14, 1842.

5. *Experiments on the Saliva obtained from a man labouring under fistula of the right parotid duct near its extremity.* By Messrs. GARROD and MARSHALL.—*Reactions.*—Tiedemann and Gmelin found it generally slightly alkaline, sometimes neutral, but never acid. Schultz found it acid in the adult when retained in the mouth—alkaline in children. Mitscherlich, who observed it in a case of parotid fistula, found it acid when not eating, alkaline during a meal. Other observers have come to similar conclusions; but most consider that it is capable of varying under very slight circumstances. Messrs. Marshall and Garrod found that between meals the fluid issuing from the fistulous opening, amounting to two or three drops in the quarter of an hour, was always acid, but within half a minute after a morsel had been taken it became neutral, and within the minute alkaline: it soon became strongly alkaline, and remained so till the completion of the meal. About ten minutes after the meal it again became neu-